

way as to reasonably convey to one skilled in the art that the inventors, at the time the invention was filed, had possession of the claimed invention. In particular, the Examiner finds that the specification does not explain the relevance of scanning along a channel direction of the TFTs.

Applicant respectfully traverses this contention. The proper standard for showing possession of the claimed invention in accordance with 35 U.S.C. §112, 1st paragraph, is not whether the specification describes the relevance of the claimed invention, but whether the disclosure reasonably conveys to one of ordinary skill that the inventor had possession of the invention as now claimed. *Ralston Purina Co. v. Mar-Co., Inc.*, 772 F.2d 1570, 1575, 227 USPQ 177, 179 (Fed. Cir. 1985); *In re Kaslow*, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983); *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991). Moreover, the court in *Vas-Cath* suggests that possession of an invention may be shown in the detailed drawings. *Vas-Cath* at 1565.

In this regard, the claimed feature of scanning the laser beam in a direction parallel to the channel region is shown at least in Figures 2B and 2D. See also, page 10, line 3 to page 11, line 1 of the specification. Moreover, at least one of the dotted-and-dashed lines and the dotted line of Figure 3 supports scanning the laser beam in a direction parallel to the channel region of the TFTs. Accordingly, inasmuch as the claimed feature of scanning along a direction parallel to the channel region is supported by the drawings, it is contended that the claimed invention is in conformance with the written description requirement of 35 U.S.C. §112, 1st paragraph. In view of these remarks, reconsideration and withdrawal of the rejection is earnestly solicited.

B. Non-Statutory Double Patenting Rejection

The Examiner provisionally rejects claims 1, 10 and 31 under the judicially created doctrine of double patenting as unpatentable over claims 1, 8, 17 and 24 of copending Application Serial No. 09/615,842.

Applicant respectfully traverses this rejection in contending that the rejected claims define subject matter which is clearly patentably distinct over claims 1, 8, 17 and 24 of the '842 application. More particularly, it is contended that the aforementioned claims of the '842 application fail to expressly teach or remotely suggest a method of fabricating a semiconductor device involving a step of irradiating a semiconductor film with a laser light along a scan direction which is parallel to a channel region. Accordingly, double patenting cannot be supported in claims 1, 8, 17 and 24 of the '842 application. Reconsideration and withdrawal of the rejection is earnestly solicited.

C. 35 U.S.C. §103 Rejection

The Office Action rejects claims 1, 2, 6, 8, 10-13, 17, 19, 31-35, 37, 38, 41, 42, 44, 46-49, 52, 53, 55, 58-60, 63, 64, and 66-71 under 35 U.S.C. §103(a) as unpatentable over *Chae*, claims 20-24, 28 and 29 under 35 U.S.C. §103(a) as unpatentable over U.S. Patent No. 5,432,122 to *Chae* in view of U.S. Patent No. 5,565,377 to *Weiner et al.* (Hereinafter "*Weiner*"), and claims 3-5, 7, 9, 14-16, 25-27, 30, 36, 39, 40, 50, 51, 61 and 62 under 35 U.S.C. §103(a) over *Chae* in view of U.S. Patent No. 4,915,772 to *Fehlner et al.* (Hereinafter "*Fehlner*"). Applicants respectfully traverse these grounds for rejection for at least the following reasons.

The claimed invention is directed generally to fabricating a semiconductor device having at least one thin film transistor comprising a channel region and a gate electrode. More particularly, practice of the method in accordance with the claimed invention requires steps of forming a semiconductor film comprising an amorphous silicon over a

substrate, and irradiating the semiconductor film with a laser light having a rectangular irradiation area while relatively moving the laser light along a scan direction which is parallel to the channel region.

Applicant respectfully contends that *Chae*, either alone or in combination with the *Weiner* or *Fehlner*, fails to expressly teach or implicitly suggest each and every claim limitation necessary to support a finding of *prima facie* obviousness under §103. For instance, the Examiner finds that *Chae* discloses, allegedly, a method of fabricating a semiconductor device including the forming and irradiating steps presently set forth in the claimed invention. The Examiner concedes, however, that *Chae* fails to disclose irradiating an amorphous film with a laser light along a scan direction which is parallel to the channel direction. The Examiner maintains, without providing any documentary evidence in support of this conclusion, that it would have been obvious to one of ordinary skill in the art at the time of invention to perform irradiation parallel to the channel region since “there is no difference in quality or properties of the crystallized film.” Page 5 of Office Action.

Applicant traverses this finding in contending that an artisan would not have found the irradiation method step to be obvious without any actual evidentiary support that would motivate him to do so. For instance, the Examiner admits *Chae's* failure to disclose irradiating an amorphous film with a laser light along a scan direction which is parallel to the channel region. Yet, in order to fill in the gaps of the rejection, the Examiner apparently deems that any skilled artisan would have found such a deficiency obvious in view of the teachings of *Chae*. This is problematic in that the Examiner fails to provide any tangible suggestion or motivation, in *Chae* or otherwise, as to why one skilled in the art would have reached such a conclusion.

Applicant respectfully contends that the sole motivation to modify the express disclosure of *Chae* came not from any suggestion from *Chae* itself or the known

teachings in the prior art, but as the result of impermissible hindsight reconstruction of the claimed invention. It is a well-established rule that obviousness cannot be predicated by hindsight combination to produce the claimed invention. *In re Gorman*, 933 F.2d 982, 986, 18 USPQ2d 1885, 1888 (Fed. Cir. 1991). In the present situation, there is no apparent teaching or disclosure in *Chae* to perform irradiating laser light in a scan direction parallel to the channel region of the TFT. Thus, the only way in which one of ordinary skill would have been motivated to perform such a process step in view of *Chae* would be as a result of the teachings set forth in Applicant's disclosure.

Moreover, it is contended that the mere fact that Applicant's disclosure does not describe all of the advantageous benefits derived from irradiating laser light parallel to the channel region should not be found as evidence of the claimed invention's obviousness. It is well settled that the advantages of a claimed invention need not be expressly enumerated in the specification. *In re Chu*, 66 F.3d 292, 298, 36 USPQ2d 1089, 1094 (Fed. Cir. 1995). In fact, the court in *Chu* acknowledged that to include evidence and arguments in the specification responsive to an obviousness rejection would be "to require patent applicants to divine the rejections the PTO will proffer when patent applications are filed." *Id.* Moreover, the court in *Westmoreland Specialty Co. et al. v. Hogan*, 167 F.d 327, 328 (Cir. Ct. App. 1909) held that:

"the mere failure of a patentee to realize all the benefits and possibilities of his invention is not fatal. The after-discovery of unsuspected usefulness in a disclosed apparatus, far from detracting its value, may serve to enhance it."

See also, *In re Zenitz*, 333 F.2d 924, 927, 142 USPQ 158, 161 (C.C.P.A. 1964).

In the present situation, while the specification does not describe all of the beneficial aspects of irradiating a semiconductor film with a laser light parallel to the channel region, there is evidence subsequent to the filing of the subject application that such a step in fact yields non-obvious benefits relating to the electrical characteristics of


the TFT. In particular, irradiating laser light scanning in a direction parallel to the channel region results in enhanced carrier mobility. Although this benefit is not originally disclosed in Applicant's disclosure, it is contended that such an advantage would have inherently flowed from the claimed invention as originally disclosed. Thus, it is contended that such evidence should be considered by the Examiner as indicia of the claimed invention's non-obviousness.

Accordingly, inasmuch as the base reference *Chae* fails to expressly teach or remotely suggest each and every feature defined by the claims of the subject application, or provide any suggestion or motivation to modify its teachings, its combination with either of *Weiner* or *Fehlner* would still fail to render the claimed invention obvious in that they also fail to teach scanning a laser beam in a direction parallel to the channel region. Accordingly, Applicant respectfully requests that the §103(a) rejection of the pending claims be reconsidered and withdrawn in view thereof.

Conclusion

Accordingly, Applicant submits that the pending claims are in proper condition for allowance and consideration and withdrawal of the pending rejections is requested. If the Examiner believes further discussions with applicant's representative would be beneficial in this case, he is invited to contact the undersigned.

Respectfully submitted,



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